Housing in the euro area — Twelve markets,

*By Jenny Osborne**

ABSTRACT

This paper examines developments in the euro area housing market, with particular reference to the last ten years. Since the mid 1990s, the rising trend in euro area house prices has been remarkable both in its duration and strength, persisting during a phase of economic slowdown. However, developments have been far from uniform across the euro area, and there have been considerable differences in the experience of individual countries. This paper endeavours to explain why we observe such a diversity of house prices, in an area with a common currency and common interest rate. While the significant fall in interest rates over the past number of years has been an important determinant of the rise in house prices in many countries, differences in the structure of housing and mortgage markets have also played a big role. As a consequence, housing markets remain strongly national in character.

1. Introduction

For the vast majority of individuals, the purchase of a house is, by far, the largest single economic transaction made in their lifetime, and residential property represents the most significant part of household assets in most economies. With housing the single biggest component of household wealth, housing market developments have the potential to have a significant impact on the economy. In particular, changes in house prices can, through their impact on wealth or by reducing liquidity constraints, influence consumer spending.

In contrast with historical patterns, the behaviour of house prices in recent years has been uncharacteristic. While economic activity slowed, house prices rose — and, in the case of many euro area countries, at an accelerating rate. In large part, this is the result of historically low interest rates, changing demographics and financial liberalisation. Since the mid-1990s, the global economy has seen a strong and sustained rise in the value of housing, with an acceleration in house price inflation evident in many countries over the past five years. During this time, rising housing prices have boosted household wealth and have been perceived as playing a key role in mitigating the cyclical downturn in economic activity as well as cushioning its impact on the financial sector. However, buoyant property markets have not only boosted household wealth in recent years,

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but have also stoked a sharp rise in household debt, and the risk of declines in house prices and their interaction with higher levels of household debt, pose important challenges going forward.

This paper examines developments in the euro area housing market, with particular reference to the last ten years. The paper compares house price developments across a number of euro area countries, and in particular endeavours to explain why we observe a diversity in housing developments in an area with a common currency and common interest rate. Also addressed are the risks and challenges, which have intensified as a consequence of buoyant property markets.

The paper is set out as follows. In the first section, the housing market cycle is introduced, examining recent developments in house prices. Having discussed the various macroeconomic variables that may affect house price movements, section 2 introduces the role of institutional differences in mortgage markets, and how they can strongly influence housing market developments, while section 3 discusses the role of national fiscal measures. Section 4 progresses to examine what impact developments in house prices over the past number of years have had on the broader economy, notably, through their effect on wealth and consumption. Section 5 considers the extent to which the scale of house price increases in some countries has heightened the risk of overvaluation and discusses the macroeconomic implications of a bigger stock of household debt. Finally, the conclusions are set out in section 6.

Section 1

1.1 The housing market cycle

In all countries developments in the housing market tend to track the business cycle, and there is a tendency for real house price peaks and troughs to lag business cycle turning points. However, the lag between house prices and the business cycle differs across countries and also differs between cycles. Recently, the lags have lengthened and house prices have actually accelerated after the turning point in the business cycle (this has been most clearly evident in the US, UK, Australia, Ireland and Spain).[1] Recent developments in the housing market reflect the unusual nature of the economic cycle since the late 1990s. The economic slowdown that began at the end of the 1990s reflected the ending of the investment and stock market boom, which significantly, was non-inflationary. As a consequence, and atypically compared to all other post-war cyclical slowdowns, it was neither the result of nor the trigger for a monetary tightening. Instead, the sluggish nature of the 2002-2003 recovery led to deflationary concerns and consequently monetary policy eased

1 Related to this, more than three years after the equity market started to collapse house prices continue to rise in many countries, and even if house prices were to peak in the near future, this would imply a longer than average lag by historical standards, between equity and housing market peaks.

across the major economies, and, even where it was subsequently tightened, has remained broadly accommodative. With interest rates relatively low and with inflation subdued, bond yields have reached historical lows, stimulating the housing market. Housing demand has also been supported by relative return considerations in recent years. With households wary of equities, following the dotcom bubble, and less attracted to bonds given their low yields, the housing market has become attractive. What is more, the relaxation of liquidity constraints as a consequence of ongoing financial liberalisation, at a time when interest rates are at historical lows, has further fuelled housing demand. Borio and McGuire (2004) highlight the role of monetary policy when it comes to the emergence of sequential equity and housing price booms; their results suggest that housing booms tend to lag equity booms, with the lag of the length depending on the level of interest rates. Against this background, the lengthened lag between the business cycle and the housing cycle is understandable.

1.2 House price developments: Stylised facts

Historical evidence indicates that property prices are characterised by long swings, with industrial countries experiencing about two full cycles over the period between 1970 and 2003. Furthermore, house price cycles have shown some international synchronisation over the past three decades. For instance, the euro area, US and UK have all experienced a rapid increase in house prices over time. However, there have also been differences. For example, in the late 1980s and early 1990s, euro area house prices were much slower to rise compared to those in the US and the UK. Since the mid 1990s, the US, the UK and the euro area have all experienced a rapid increase in real house prices. However, the scale of price increase has varied — since 1996, real residential prices have increased by 30 per cent in the euro area, 50 per cent in the US and 115 per cent in the UK.[2]

It is also evident in the euro area that the pattern of real house prices (i.e. adjusted for inflation) has differed markedly across countries, taking a long-term perspective. During the period 1970-2003, real house prices hardly moved in Germany and rose only modestly in France and Italy. In contrast, in Spain, the Netherlands and Ireland, real house prices have risen considerably. While real house prices in the EU have followed long cycles around an upward trend, at a country level, however, the scale of residential property price movements continues to be very diverse — and even under economic and monetary union, divergences have persisted. While inflation has been muted in most countries, real house prices have expanded at a much faster pace, with the exception of Germany, where they hardly rose. In the period (1998-2003), the standard deviation of real house price growth across countries was almost four times

2 According to the European Commission, Volume 4, No. 2 (2005).

that of inflation, according to IMF estimates, and thus low and stable inflation has co-existed alongside very different housing market developments.[3] In summary, while there may be some similar broad trends, developments have been far from uniform and there have been considerable differences in the experience of individual countries.

Since the mid 1990's (the beginning of the present cycle) nominal house prices have risen at an accelerated pace in most EU countries, and some countries (Greece, Spain, France and the Netherlands) have had very strong, close to or above double-digit average house price increases since 1999.[4] Currently available data indicates that euro area residential property prices are estimated to have recorded their fifth consecutive year of strong dynamism in 2004, increasing by 7.4 per cent, which is slightly up from 7.1 per cent in 2003. (See Table 1 below). Developments in recent years reflect the buoyancy of the market in Spain, Ireland, France and Italy. For more than two years, prices have been broadly stable in Italy and Spain, while in France the upward tendency has only been a more recent phenomenon, and seems partly explained by the catching up in residential property prices from the mid-1990s. However, in Greece and the Netherlands, growth in house prices has moderated, and there is also some slowdown in the rate of house price growth in Ireland in the last year. In contrast, in Portugal prices have risen only very modestly in recent years, while in Germany house prices have actually fallen. (The relative flatness of German real residential property prices is, in part, due to flexible supply conditions and an oversupply of new dwellings after unification).

Table 1: Residential property prices in euro area countries (nominal, annual percentage change)

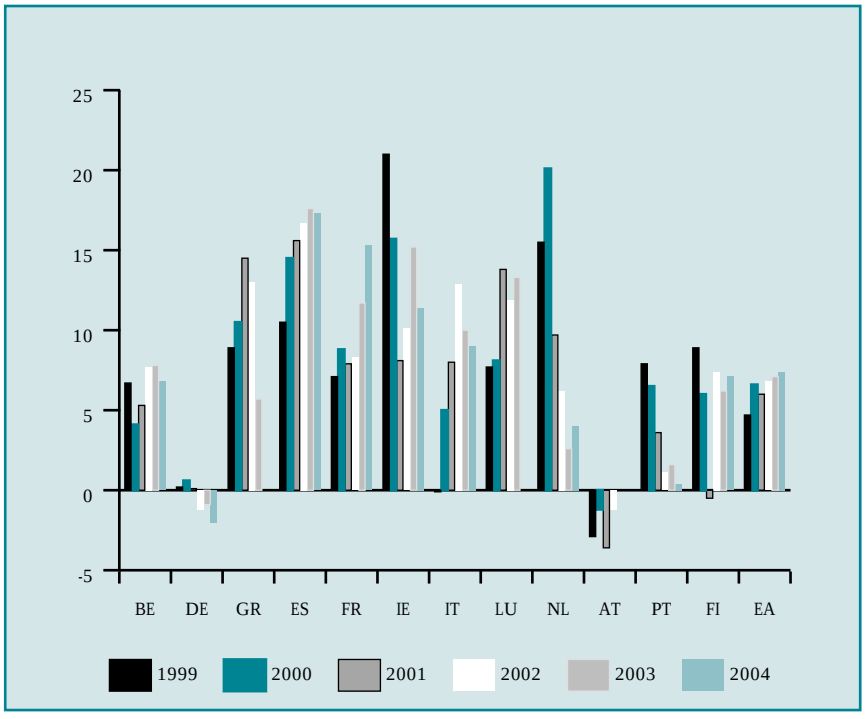
	1997-2000	2001	2002	2003	2004
Belgium	5.0	5.3	7.7	7.8	6.8
Germany	–0.5	0.1	–1.2	–0.9	–2.0
Greece	10.5	14.5	13.0	5.7	–
Spain	7.8	15.6	16.7	17.6	17.3
France	4.5	7.9	8.3	11.7	15.3
Ireland	21.1	8.1	10.1	15.2	11.4
Italy	2.1	8.0	12.9	10.0	9.0
Luxembourg	3.8	13.8	11.9	13.3	–
Netherlands	13.8	9.7	6.2	2.6	4.0
Austria	–2.0	–3.6	–1.2	–	–
Portugal	5.8	3.6	1.1	1.6	0.4
Finland	10.7	–0.5	7.4	6.2	7.1
Euro Area	**3.9**	**6.0**	**6.8**	**7.1**	**7.4**

Sources: National sources and ECB calculations

3 IMF, Article IV Selected Issues, Chapter III ''House prices and monetary policy in the euro area'' (2005).

4 The last upswing was seen in the late 1980's, when real house price growth increased throughout the period from 1986 to 1989, reaching nearly 9% in 1989. This upswing ended abruptly in 1991, and was followed by a period of falling real house prices up to 1998.

Residential Property Price Changes in the Euro Area and Across Euro Area Countries



1.3 Determinants of house prices

This raises the question of what determines house prices and why there has been such diversity across a common currency area with a common interest rate. In looking at determinants of house prices, the theoretical literature highlights how the interplay between common demand and supply factors and differences in the institutional features of housing and mortgage markets can lead to very different developments across countries. Factors that influence demand in the longer run include growth in household disposable income, shifts in demographics, permanent features of the tax system that might encourage home ownership, as opposed to other forms of wealth accumulation, and the average level of interest rates. Long-term determinants of supply include the availability and cost of land, construction costs and the quality of existing housing stock. (Refer to Box 1 for a discussion on 'The Dynamic Model of the Housing Market').

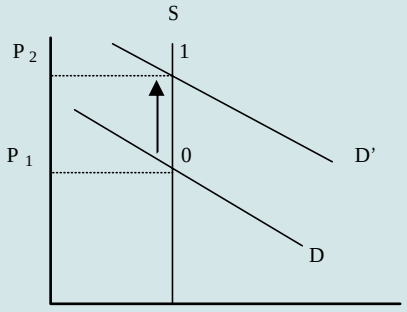
Property markets also tend to be intrinsically local in character and can be strongly influenced by particular characteristics, which can differ substantially across countries. The demand for houses is determined by demographic dynamics in each country; the supply of new homes can be constrained by land availability and the local land planning system; the financial cost of home purchases depends to a large extent on the housing financing system; and the liquidity of the housing market may be further constrained by the existence of transaction costs such as VAT, stamp duties and registration fees, as well as real estate taxes. All of these factors are specific to each market, and can lead to cross country differences in housing price movements. The responsiveness of supply is also an important factor that varies

Box 1: The Dynamic Model of the Housing Market

At a theoretical level, there is a single widely accepted standard textbook model of the housing market. The two-equation model suggests that in the short-run, all other things being equal, house prices tend to overshoot their long-term values in a boom. Figures 1 and 2 below try to explain this phenomenon.

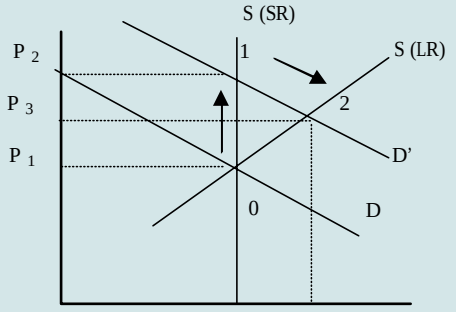
Examining Figure 1, at a given level of demand D, we observe that for any level of house prices below P_1, an excess demand for housing exists, while for any level of house prices above P_1, excess supply exists. Under conditions of short-run equilibrium, any stimulus to housing demand will result in a rise in house prices. In the short-run, the supply of housing is relatively fixed — i.e. the supply curve is almost vertical, meaning supply is inelastic or relatively unresponsive to prices. The demand curve, is, as usual, downward sloping. Recognizing this, if there is a fall in the user cost (or an increase in disposable income), the demand curve shifts to the right to D'. Since in the short run supply is inelastic, the demand curve shifts from 0 to 1, and prices increase to match the relatively fixed supply of houses (P_2). However, in the long run, supply becomes more elastic and responsive to prices, as can be seen in Figure 2. This is represented by a relatively flat supply curve, and the housing stock increases and moves to a point 2. As a result prices fall (P_3).

Figure 1



Housing stock

Figure 2



Housing stock

An increase in demand will raise prices because supply is fixed in the short term. If buyer's expectations about future prices and lenders' willingness to extend credit are both based on recent price increases, demand will then rise further, pushing prices higher still.

While the theoretical model is important in explaining housing market dynamics, in the real world, where we observe credit rationing, spatial effects and tax treatment on owner occupancy, things may turn out somewhat differently. Taking account of these features in practice is more difficult — largely related to empirical and econometric complexities. Furthermore, the view that both the supply and demand for housing interact to determine an equilibrium level for real house prices should not be taken to imply that house prices are necessarily stable. In many countries it is frequently observed that house prices are significantly more volatile than would be predicted by the variation in the main determinants of supply and demand alone.

substantially across countries. Since the supply of new housing can only respond sluggishly to demand in the short run, house prices can deviate from their long run trends for a considerable length of time. The supply response will largely depend on local legislative and structural factors, as well as tax and subsidy policies.[5] In addition, the functioning of the housing market also depends on the housing financing system, which varies significantly between countries in terms of contract arrangements, tax breaks and subsidies.

In summary therefore, national differences can reflect not only differences in the stage of the business cycle but also distinctive local factors related to the elasticity of supply, funding methods, subsidy/tax policies and legal frameworks. We will now turn to look at how some of these factors play a role in explaining differences across the euro area.

Section 2: The Role of Institutional Developments in Mortgage Markets

The above discussion suggests that, in addition to the usual macro-economic variables, house price developments can be strongly influenced by the particular characteristics of the international housing markets. Consideration of some of these factors e.g. demographic factors, legal frameworks etc, is outside the scope of this study. Instead, the paper focuses on two elements — the role of institutional differences in mortgage markets across the euro area and the impact of differences in housing related fiscal measures across countries — which help explain some of the diversity in house prices.

2.1 Key Characteristics in the Mortgage Market

When looking at the role of mortgage markets, it is useful to begin by considering the manner in which a number of key characteristics differ across countries.

Using the taxonomy suggested in IMF (2005), it is useful to look at four aspects that differ across countries:

- *Mortgage interest rates are either variable or fixed*. The household sector's sensitivity to interest rate changes depends on whether households have mainly fixed or variable rate mortgages. Those countries/households that use predominantly variable rate mortgages will be more sensitive to changes in interest rates.
- *Mortgage assets are securitised*. If credit institutions can sell excess exposure in the secondary market, this could lead to more flexible mortgage contracts. Securitisation

5 The fact that new housing supply is less responsive to price developments in some countries, such as the Netherlands, the UK and some Nordic countries, has partially contributed to recent housing booms in these areas (Zhu, 2005).

contributes to mortgage risk diversification and, hence, reduces the sensitivity of the banking sector's lending capacity to housing price cycles.[6]

- *The maximum loan-to-value ratio* (i.e. the typical amount of the mortgage loan relative to the value of the house). The LTV ratio has risen in most countries in recent years. The ceiling level determines the degree of conservatism of mortgage lending, which affects the strength of the credit channel. Where high LTV ratios exist, households become more indebted.

- *Mortgage equity withdrawal.* If households can withdraw home equity to take advantage of low refinancing rates and increased house values, then the credit channel of monetary policy could be enhanced, with knock-on effects for both consumption and house prices.

Table 2: Characteristics of mortgage markets

	Interest rate adjustment*	Mortgage equity withdrawal (MEW)	Average LTV ratio (%)	Typical loan term (years)	Securitisation (mortgage-backed)
Belgium	F	No	83	20	No
Germany	F	No	67	25-30	No**
Greece	V	n.a.	75	15	n.a.
Spain	V	Unused	70	15	Yes
France	F	No	67	15	No**
Ireland	V	Yes	66	20	Yes**
Italy	Mixed	No	55	15	No
Luxembourg	n.a.	n.a.	n.a.	20-25	n.a.
Netherlands	F	Yes	90	30	Yes
Austria	F	n.a.	60	20-30	n.a.
Portugal	V	n.a.	83	15	n.a.
Finland	V	Yes	75	15-18	No**
Denmark	F	Yes	80 (max)	n.a.	No
UK	V	Yes	90-100	25	Yes
US	F	Yes	75-80	30	Yes

*Classification based on the majority of mortgage loans, F=Fixed, V=Variable.
**Securitisation remains very limited.

Sources: ECB (2003), Tsatsororis and Zhu (2004), European Commission (2005), European Mortgage Federation.

The results from Table 2 suggest:

Mortgage interest rates: The impact of short-term interest rate changes is likely to be stronger in Ireland, Spain, Finland and Portugal, (where variable interest rates are predominant), whereas in France and Germany, movements in policy interest rates over the business cycle should only have a small effect on mortgages. (See Box 3). Furthermore, the typical duration of the mortgage contract as well as the duration of the interest rate that anchors mortgage rates differs across countries, which will have an impact.[7]

6 Tsatsaronis & Zhu (2004)
7 The sensitivity of the household sector to interest rate changes will also depend on the degree to which a possible change in interest rates was anticipated by households at the time they initiated the mortgage.

LTV ratio: The average loan-to-value ratios vary strongly between countries – averaging just above 70 per cent for the euro area as a whole. The LTV ratio is particularly high in Belgium, Denmark, the Netherlands and Portugal, while it is particularly low in Italy and Austria. Changes in the lending criteria have had a significant impact on the LTV ratio.

Mortgage securitisation: There is some evidence of mortgage securitisation in Spain and the Netherlands and, to a more limited extent in Ireland, France and Germany.

MEW: Overall, in the euro area, mortgage equity withdrawal is still in its infant stages. While there is some evidence of MEW in Denmark, Finland, Ireland and Portugal, it is still minimal. On the other hand, in the Netherlands, MEW has had a significant impact. (See Box 2).

The extent of owner occupation can amplify the importance of the mortgage market structure. As illustrated in Table 3 below, owner-occupancy rates differ considerably across the euro area. Ownership is around or above 80 per cent in Ireland, Spain, Italy and Greece, while in Germany and the Netherlands, it is around 50 per cent or lower. In those countries where a low percentage of ownership prevails, changes in mortgage interest rates may tend to have less of an impact on households finances.

Table 3: Owner Occupancy Rates

Country	Home Ownership (%)	
	1990	2002
Belgium	67	71
Germany	39	42
Greece	76	83
Spain	78	85
France	54	55
Ireland	79	77
Italy	68	80
Luxembourg	n/a	n/a
Netherlands	45	53
Austria	55	56
Portugal	67	64
Finland	67	58

Source: European Commission (2005)

In this regard, MacLennan, Muellbauer, and Stephens (1999) find that countries with fixed interest mortgage rates, low loan-to-value ratios, high transaction costs, and a smaller owner-occupied sector tended to experience lower house price volatility and smaller consumption effects. Giuliodori (2004) argues that house prices enhance the effect of monetary policy on consumption when mortgage markets are more competitive, while Tsatsaronis and Zhu (2004) discover that the impact of credit on house prices is more muted in countries where lending is conservative and equity withdrawal is rare. Furthermore, it is likely that for countries, which previously had high interest rates, the convergence of long-term interest rates as part of the move to EMU has also had an impact.

Box 2: Mortgage Equity Withdrawal

Mortgage equity withdrawal (MEW) is defined as household borrowing that is secured on the housing stock but not invested in housing, or more specifically, it measures mortgage lending available for consumption or for investment in financial assets, and thus, may be an important transmission channel through which house price cycles affect the rest of the economy. When house prices rise, the amount of collateral available to households increases, which enables households to increase their borrowing by over or re-mortgaging.

A manifestation of the flexibility of the mortgage market has been the withdrawal of home equity by households to take advantage of low refinancing rates, greater availability of products such as home equity loans and increased house values. It has enabled households to smooth temporary declines in income, and furthermore, it has allowed them to borrow against expected future income, by using their house as collateral, significantly easing liquidity constraints.

As mentioned already, overall, in the euro area, MEW is still in its infant stages and remains uncommon. In contrast, in the US, UK, Australia and the Netherlands, the process of mortgage equity withdrawal has played a significant role in boosting consumption in the past number of years. In Australia, MEW is estimated to have increased household disposable income and consumption growth by around 1 per cent in each of the past four years (Reserve Bank of Australia 2003), while in the UK and the US, equity withdrawal boosted household income by over 2 per cent in 2000 (Davey (2001) and Deep and Domanski (2002)). In the Netherlands, meanwhile, research by the Dutch Central Bank indicates that MEW contributed around 1 percentage point to economic growth in 1999 and 2000, while a halving of the level of equity withdrawal in 2001 reduced consumption growth by around 0.5 percentage points in both 2001 and 2002. There are a number of reasons for these differences, but in general, MEW reflects the level of owner occupation, the level of housing wealth, the turnover of housing market transactions, and most importantly, the degree of liberalisation in financial and mortgage markets.

Empirical evidence suggests that mortgage equity withdrawal boosts disposable income and supports consumption in a number of ways. It is used for home improvement, to repay other debt and also for household expenditure. A smaller amount appears to be used on the stock market and on other financial institutions, and also on real estate and business investments. In addition, it is also used to restructure balance sheets. However, in order to continue to boost consumption growth, the amount of equity extracted needs to continue to grow, since if it remains constant, there is no additional boost to income and, thus, no growth in consumption from this source.

Box 3: What influences the type of mortgage chosen?

To date, little cross-country analysis exists on the national reasons why consumers might prefer certain types of mortgages. Research undertaken in the US by Campbell and Cocco (2003), however, suggest that there are a number of advantages to the adjustable rate mortgage (ARM). They believe that these advantages stem from the fact that people tend to benefit from a low initial rate, and since homeowners tend to have relatively stable income at present, they are therefore able to take on more risk. In addition, there is evidence to suggest that consumers tend to prefer mortgage contracts that they consider to have the ''most competitive rate'', and tend to focus on the immediate monthly costs, perhaps ignoring longer-term income or wealth risks. The underlying structure of the country's financial market, nevertheless, greatly influences the various funding possibilities. In countries where funding for mortgages is based on short-term deposits, adjustable-rate mortgages are prevalent. On the other hand, in countries with well-developed covered bond markets or deep and liquid mortgage-backed securities, markets tend to have a higher proportion of fixed-rate mortgages – most obvious in the US *(IMF, WEO September 2004).* In Denmark and Germany, fixed rate mortgages are also prevalent, where specialised private mortgage banks are granted licences to insure long-term debt against mortgages.

In addition to the structure of mortgage markets, it is likely that financial liberalisation has also played an important role. Until the 1980s, the mortgage market in most member countries was highly regulated and competition was weak. Specialised institutions, which operated with a dedicated source of funds and enjoyed either a monopoly of such funds or significant tax or funding subsidies, dominated mortgage activity, with each mortgage market tending to be tightly regulated by national authorities.[8] These regulations effectively resulted in credit rationing in the mortgage market, which made it difficult for households to borrow for house purchase or increase consumption in the wake of higher property prices. Through the 1980s and 1990s, financial deregulation occurred in nearly all developed countries, (although the timing and extent of the deregulation varied considerably across countries), and as a result, changes in the structure of the lending market seems to have had a significant effect on the extent of household borrowing. Debelle (March 2004) makes the point that a significant part of the growth in household borrowing may thus reflect a move from a suboptimally low (from the households point of view) level of indebtedness in the period prior to financial deregulation to a higher, more optimal, level now that households are no longer liquidity constrained. This is likely to have allowed households to better structure their path of consumption spending over the life cycle. Notwithstanding the deregulation that has occurred, however, there remain institutional features, which differ across countries, and can still result in some households being liquidity constrained.

8 These regulations included the fixing and lending of deposit interest rates, quantitative limits on mortgage credit extensions, ceilings on permissible loan-to-value ratios and repayment periods, and a prohibition on the granting of credit for current spending.

2.2 Indebtedness

As a consequence of the relaxation in credit constraints following financial deregulation, and as a result of a reduction in mortgage interest rates, household borrowing has increased substantially over the past decade, raising concerns about the sustainability of indebtedness. Furthermore, as inflation rates have fallen, the associated decline in nominal borrowing rates has allowed households to borrow larger amounts for a given amount of debt service, while favourable tax measures have also affected borrowing. However, the timing, extent and rate of the increase of debt have varied considerably across countries. Table 4 indicates that household debt has increased substantially in recent years, and the bulk of the increase in household debt has been in the form of borrowing for housing, although growth in borrowing for other purposes, particularly in the form of credit card debt has also exceeded that of income. Looking specifically at the euro area, borrowing for housing loans currently accounts for as much as 88 per cent of total household borrowing in the Netherlands, approximately 80 per cent in Portugal and Ireland, and around 70 per cent in Spain. Furthermore, housing loans as a percentage of GDP rank highest in the Netherlands, Portugal, Ireland, Spain and Germany. However, the aggregate numbers on the indebtedness of the household sector conceal substantial variation in the distribution of the debt across individual households.

Table 4: Household debt

Country	Lending to households* as % GDP 2004	Rank	Housing loans as % GDP 2004	Rank	Ratio of housing loans to total household lending	Rank
Austria	41.6	8	20.9	11	50.2	12
Belgium	37.9	10	28.4	8	74.9	5
Germany	65.5	5	43.4	5	66.3	9
Spain	69.4	3	48.5	4	69.9	7
Finland	42.9	7	30.1	7	70.2	6
France	41.2	9	28.2	9	68.4	8
Greece	34.3	11	21.7	10	63.2	10
Ireland	69.4	3	55.1	3	79.4	3
Italy	27.6	12	14.8	12	53.6	11
Luxembourg	45.0	6	36.3	6	80.7	2
Netherlands	84.3	1	74.4	1	88.3	1
Portugal	71.5	2	56.6	2	79.2	4

Source: Internal CBFSAI data.

**As at June 2005.*

Regardless of whether households have ‘‘over-borrowed’’, the large stock of household debt has important macroeconomic implications. As a result of increased indebtedness, the household sector has become more exposed to fluctuations in income, interest rates and house prices, raising concerns about the vulnerability of consumer finances. These issues are discussed in more detail in section 5 of this paper.

Section 3: The Role of Fiscal Measures

As discussed already, mortgage debt levels and similarly increases in house prices vary largely in the euro area, and such diversity reflects the fact that housing market determinants are still national in nature. The rapid growth of mortgage debt and of house prices in the euro area and in many industrial countries is giving rise to increasing concerns of policymakers. While much focus has been given to its possible monetary policy implications, there has been a lack of attention paid to the role of fiscal factors in influencing house prices. In a monetary union such as EMU, the widely different tax systems that exist is one element behind house price divergence.

Fiscal and government policies interact with the dynamics of housing markets in a number of ways. In general, fiscally responsible behaviour may support favourable conditions in financial markets thereby increasing affordability of home-ownership. More specifically, measures including taxation on imputed rent, tax deductibility of interest payments, capital gains taxes on housing gains, VAT on the supply of new buildings, and stamp duties when buying a home affect mortgage and price developments. Moreover, a number of structural fiscal measures can be used to stabilise the housing market. These include increases in stamp duties, increasing the tax base in line with house prices (i.e. regular updating of market values of dwellings as the tax base for property tax and wealth tax), increasing the number of years a primary house must be occupied to be exempt from capital gains tax[9] and structural reductions in mortgage interest relief. Furthermore, supply-side measures, such as land and planning restrictions, subsidised housing loans from state banks and rent regulations are other measures that can affect the housing market.

The literature in this area (Poterba (1991)) and (Van den Noord (2003)) indicate that house prices can be influenced by a combination of price-inelastic (i.e. unresponsive) supply of newly built houses and preferential tax-treatment of housing. According to these models, while the demand for owner-occupied housing declines as the purchase price rises, the price sensitivity of demand tends to fall with the degree of preferential tax treatment and the expected house price inflation. A fall in the interest rate also produces a reduction in the price sensitivity of demand. In circumstances where all three prevail — i.e. preferential tax treatment, falling interest rates and expected house price inflation — demand is likely to be much less sensitive to price rises. (See Box 4 for a discussion on the impact of a positive tax treatment on housing.)

In order to examine the extent to which owner occupancy is influenced by tax regimes, it is useful to begin by considering

9 However, this increases the cost of moving, which negatively affects labour mobility rates.

what neutral tax arrangements might be. In a tax neutral system, whether an owner of a residence decides to occupy it, or rather to rent it out, would not be affected by tax considerations. Table 5, below, outlines the various tax treatments on owner-occupied housing across the euro area.

Table 5: Tax treatment on owner-occupied housing

Country	Interest cost Deductible	Capital gains* t/E	Imputed rent T/E	Stamp duty rates	Wealth tax	Inheritance tax
Austria	Y (50%)	t	E	6%	N	Y
Belgium	Y (50%)	t	T	5-12.5%	N	Y
Finland	Y (29%)	t	E	0-4%	N	Y
France	N	t	E	2-3%	Y	Y
Germany	N	t	E	3.5%	N	Y
Greece	Y (40%)	E	E	11-13%	N	Y
Ireland	Y (42%)	t	E	0-9%	N	Y
Italy	Y (45%)	t	T	3%	N	Y
Luxembourg	Y (38%)	t	T	7-10%	n.a.	n.a
Netherlands	Y (52%)	E	T	6%	N	Y
Portugal	Y (40%)	t	E	0.8%	N	Y
Spain	Y (45%)	t	E	0.5-1.5%	Y	Y

Sources: International Bureau of Fiscal Documentation (2003) and Bank for International Settlements (2003). The table generally presents the situation for an owner-occupier living in his/her dwelling.

*Capital gains tax: the small letter 't' refers to capital gains tax as being in place, but the gains on selling a house being in effect exempted (normally only principle residence), because selling it a certain number of years after its acquisition is tax-exempted.

Examining Table 5, the following conclusions can be arrived at:

- Interest deductibility, which provides a fiscal advantage to homeowners, is evident in all countries bar France and Germany. While it is usually only available to owner-occupied dwellings, arrangements vary across countries.
- In principle most countries apply capital gains tax; however, many homeowners are often exempted, especially if they have occupied the dwelling for a number of years before selling it (acts as an anti-speculation clause).
- In only a minority of countries (Belgium, Italy, Luxembourg and the Netherlands) did owner-occupiers have to report imputed rent for tax purposes to their national tax offices in 2003.[10]
- Finally, the supply of housing is generally subject to a reduced VAT rate, while, with respect to stamp duties, there is a multiplicity of arrangements – rates vary from 0-13 per cent.

Comparing the tax neutral system to the tax regimes in place in euro area countries, suggests that most tax systems, on balance, provide some sort of preferential treatment. Van den Noord, who attempted to calculate housing tax wedges for euro area

10 This tax puts owning a home and occupying a home on an equal footing with other investments, which offer a financial return rather than services in kind.

Box 4: Impact of a positive demand shock – i.e. a positive tax treatment on housing

As a development of Box 1, this box illustrates how price dynamics behave following a positive (permanent) demand shock – with special emphasis on the tax treatment of housing. The first figure illustrates what would happen if the tax treatment on housing were not generous, while the second figure depicts that situation when the tax treatment of housing is generous. *(Van den Noord, 2003).*

Figure 1

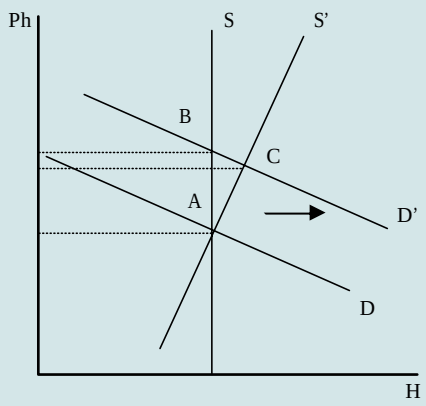
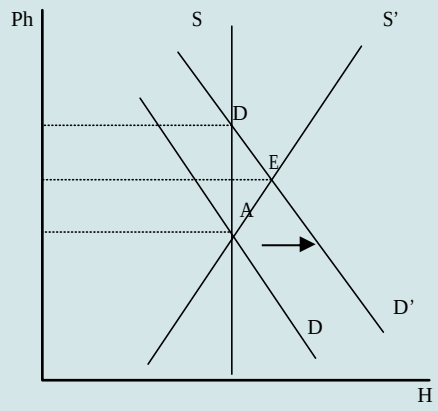


Figure 2



Where the tax treatment of housing is less generous, the demand curve will tend to be relatively elastic (i.e. flat). In such a case, in response to a shift in demand, the equilibrium moves along the vertical short-run supply curve S from A to B, since supply is inelastic in the short-term. In the longer run, however, supply expands and moves towards the long-run equilibrium C. Therefore prices initially increase and then come back down again, but, nevertheless, settle at a higher level than prior to the shock. In the second figure, where the tax treatment of housing is more generous, the demand curve is now relatively inelastic (i.e. steeper) because the impact of price increases on demand will be offset by the tax break. The shock now produces a sharper initial increase in the price level (from A to D), and a sharper subsequent fall, than in the first scenario.

countries, supports these results. While based on 1999 data, his results indicate that housing is subsidised, to some degree, in most euro area countries. On the basis of his calculations, the only exceptions are Germany, France and Belgium, where the tax arrangements in relation to housing are judged to be neutral.

Section 4: Housing and the Macroeconomy

Having discussed and examined the development of house prices over the past number of years, the natural progression is to examine what impact this has had on the broader economy. The link between housing market developments and economic growth has attracted much attention in recent years. This reflects the frequently made observation that, in many countries, where consumption has been resilient over the recent cyclical downturn, house prices and mortgage debts have risen sharply. The paper now turns to look at the link between housing markets and the business cycle in the euro area.

4.1 House prices, wealth and consumption

It is perceived that a relationship exists between house prices and consumption. This relationship may be causal, or it could possibly be driven by other factors such as strong economic growth or low interest rates. The characteristics and structure of mortgage markets play an important role in shaping the link between housing markets and growth, and in particular, the wealth effect. Theory suggests that, as house prices rise, there is a corresponding wealth effect and an easing of liquidity constraints, which may result in mortgage backed borrowing. However, on the flipside, the cost of housing services rises (i.e. rents) and there is a change in the distribution of wealth.

In general, housing market developments are seen to have the potential to affect consumption in three ways. First, there can be an income effect, with consumption increasing as a result of the direct impact of lower interest payments on household debt. However, the scale, or even existence, of this effect will depend on the extent to which the household sector has positive net holdings of interest-bearing assets. In many euro area countries, this is the case, thus offsetting the impact of lower debt interest payments. There is also what is seen by many as the primary channel, the potential impact of higher house prices on household sector wealth and, in turn, on consumption and savings behaviour. Finally, there is a collateral effect, through higher house prices raising the value of available collateral and loosening credit constraints.

In recent years, much consideration has been given to the extent to which rising house prices have fostered consumption and economic growth through wealth effects, in a period when other wealth components (notably financial wealth) were declining, thereby operating as a channel in shaping the business cycle.

Theoretically the issue is complicated because house prices have both a wealth effect and a relative price effect. An increase in housing wealth is different from an increase in financial wealth for two reasons. Firstly, it causes a redistribution of wealth within the household sector, and secondly, it has mostly short-term effects on non-housing consumption. In practice, households are either renters or owners of housing, and so, not all will benefit from rising house prices. The real incomes of those households that are renters is reduced by the increased cost of housing, while future generations or first time buyers (FTB) suffer welfare losses. In effect, there is a transfer of wealth from FTB/renters to existing homeowners. Hence, there is a decrease in consumption from renting households because of the price effect, and an increase in consumption from current homeowners as a result of a wealth effect. The net effect of a rise in house prices is therefore ambiguous and will depend on different propensities to

consume, the share of owner occupied housing and the extent to which rents move in line with house prices.[11]

Empirically, in some countries (which are discussed in more detail further on) a positive relationship can be observed between changes in housing wealth and consumption, and hence demand, although this varies in terms of significance across countries, and can depend on factors such as the financial system in specific countries. There are a number of reasons why we observe such a relationship. Firstly, the average propensity to consume of homeowners may exceed that of renters,[12] secondly, households regard part of the rise in house prices as a rise in savings which is available to boost current consumption, thirdly, households are able to finance greater consumption by borrowing against the increased value of the house, and finally homeowners can be myopic (i.e. as interest rates are lowered, homeowners focus on having more disposable income since their monthly mortgage repayments have fallen).

Although the issue of the size of the housing wealth effect has attracted significant attention in some countries such as the US and the UK, empirical research on housing wealth in the euro area is still relatively sparse and cross country comparisons remain relatively difficult. Nevertheless several studies have attempted to quantify housing wealth effects in a multi-country setting. Some of their findings are listed below.

- An OECD study by Catte et al (2004) suggests the existence of significant housing wealth effects in the US, UK, Canada, the Netherlands and Australia and, furthermore, that the housing wealth effect appears to be larger than the financial wealth effect in these countries. By contrast, in France, Germany, Italy and Spain, the consumption response to changes in housing wealth remains limited. Furthermore, their findings indicate that the size of the effect of housing wealth on consumption appears to be positively related to the mortgage market size, since the influence of the housing market on consumption depends on the extent to which homeowners are able to borrow against their housing wealth. In addition, several other parameters may also be pivotal in explaining the strength of the link between house prices and consumption. In keeping with the findings of section 2 above, wealth effects are likely to be strongest in countries where there is a high degree of home ownership, the financial system is sufficiently liberalised, and there are marked gains in housing equity. Certain other mortgage market characteristics, and in particular the degree of

11 Debelle (June 2004).

12 Non-homeowners are more likely to be saving for their home deposit, whereas homeowners who tend to be further advanced in the life cycle will need to save less (Debelle (June 2004)).

''completeness'' (i.e. Denmark, the Netherlands and the UK appear to have the most complete mortgage markets in terms of the range of products offered, such as second mortgages and equity release products, as well as the choice of alternative interest rate adjustment and repayment structures), strengthens the wealth effect on consumption. Lower transaction costs and higher owner-occupation rates may also assist this transmission process.

- An IMF study by Ludwig and Slok (2004) estimates a consumption function using data for 16 OECD countries. The analysis finds, not surprisingly, that the long-run impact of an increase in house prices is, in general, higher in countries with market-based financial systems. Splitting the sample into two periods, the 1980s and the 1990s, they also find that countries have moved towards a higher degree of responsiveness of consumption to changes in house prices. Furthermore, more recently, the house wealth effect has functioned through the refinancing of loans, due to the significant drop in mortgage rates experienced in most OECD countries.

- The correlation between the house price cycle and the consumption cycle is examined in the recent European Commission quarterly report on the euro area (2005)[13]. From the analysis, (see Table 6 below), the correlation between house prices and consumption cycles has traditionally been much stronger in some countries, (e.g. Spain, the Netherlands and Finland) than in others (Belgium, Germany and Italy). Furthermore, most countries have experienced a drop in the correlation since the 1990s, in particular in Germany and Belgium. On the other hand, in Ireland and to a lesser extent in France, the link appears to have strengthened.

Table 6: Correlation between the house price cycle and the consumption cycle* (in %)

	Correlation with the private consumption cycle	
	1976-2003	1991-2003
Belgium	54	–40
Germany	25	6
Spain	87	74
France	67	71
Ireland	66	87
Italy	31	23
Netherlands	83	76
Austria**	n.a.	47
Portugal	n.a.	80
Finland	92	88
Euro-12	69	56

**Log-linear trend for house prices and HP filter trend for consumption.*
***(1991-2002)*
Source: European Commission Quarterly Report on the Euro Area (Volume 4, no. 2, 2005).

13 European Commission, Volume 4, No. 2 (2005).

However, this type of correlation may be misleading, as there could be other variables (for example, income) driving the growth in both house prices and consumption. Therefore, examining the saving ratio gives a better picture, as the existence of a wealth effect tends to lead to consumers feeling a reduced need to save, which would result in a fall in the savings ratio (see Table 7 below). In France, Germany and Ireland, savings, rather than falling have kept pace with disposable income, suggesting that there is no evidence to indicate that the boom in house prices is impacting on consumption through a wealth effect. In contrast, savings have fallen as a per cent of disposable income in Finland and the Netherlands.

Table 7: Household savings rates (per cent of disposable income)

	1991	1996	1999	2003
Finland	7.1	0.4	1.5	0.6
Netherlands	13.8	13.0	9.6	10.1
France	8.7	10.0	10.4	11.1
Germany	13.0	10.8	9.8	10.7
Ireland	9.3	8.2	9.8	11.9

Source: OECD Economic Outlook, CSO Ireland

- Finally, a UK Treasury study[14] found that the link between changes in house prices and spending has been close in the UK; however the link was not as strong in other EU countries, and also the results varied considerably between countries. Private consumption also appears to react more quickly to changes in house prices in the UK, with the effects being less drawn out compared with other EU countries.

In summary, higher house prices can affect household sector wealth, and in turn, consumption and savings behaviour. However, the effect varies in significance across countries, and the financial system of a specific country matters.

Section 5: Challenges and Risks

While the above analysis indicates that both much of the recent strength of housing markets and differences in cross-country performances can largely be rationalised, the scale of house price increases in some countries has given rise to concerns that there may be some degree of overvaluation. More generally, for the economy at large, the bigger stock of household debt has important macroeconomic implications.

5.1 Are house prices overvalued?

In analysing the housing sector, house prices are generally decomposed into their fundamental and non-fundamental

14 HM Treasury (EMU study) Chapter 6, 2003.

components; if house prices exceed the fundamental price on a systematic basis, then they are likely to be overvalued. According to the theory, (as discussed in Box 2), in the short run, real house prices tend to overshoot their long run value, since supply responds more slowly, resulting in an immediate rise in the current level of real house prices relative to other goods and services. In the longer run housing supply should respond, weakening the impact of demand variables such as income and interest rates on real house prices.

In many countries, real house prices have been rising at a very fast pace — fuelled by low short-term interest rates and strong growth in credit. It is therefore argued that house prices look more overvalued now than at previous peaks, since average house prices stand at record levels in relation to wages and rents. What is more, inflation is close to its lowest for half a century and, there is a concern therefore, that overvalued real house prices cannot, as in the past, regain their long-term equilibrium mainly through inflation, raising the concern that house prices will have to fall in money terms.

The rapid rate of increase in house prices is, however, necessary, but not sufficient evidence of overvaluation. The concept of overvaluation has meaning only if there is some divergence between house prices and some measure of their underlying value. Two measures that are commonly used to gauge evidence of overvaluation are house prices relative to household income and house prices relative to rents (the latter being equivalent to the idea of a price/earnings ratio of housing[15]). However, these measures must be interpreted with a degree of caution, since there are a number of caveats with regard to the comparability of the data.

Firstly, looking at the house-price-to-income ratio, evidence points to national disparities. Stephensen and Koster (2004) find that the Dutch, Irish and Spanish housing markets appear highly valued in relation to personal disposable income; Belgium, Finland, France and Italy appear moderately valued in relation to personal disposable income; while Germany and Greece are relatively inexpensive in comparison. In the case of Germany, house prices have fallen for more than seven years now, while at the same time, income has increased.

Examining the house-price-to-rent ratio, it must be borne in mind that in some euro area countries rental markets are heavily regulated, and as a result the p/e ratios based on rents may be distorted. Bearing this in mind, as can be seen from Table 8 below, for most euro area countries, house prices increased

15 The idea of the p/e ratio treats housing as similar to financial assets. The p/e ratio looks at house prices relative to their yield i.e. rental incomes, and tests the idea that house prices are not driven especially by demographics and fixed supply — since these factors should affect rental as well. However there is a lack of long run series on rents for all countries.

considerably faster than rents. Two exceptions to this trend are Italy and Germany, where house prices have not kept pace with rents.

Table 8: House-price-to-income ratio and Price/rent ratio

Country	House-price-to-income ratio*		Price/Rent Ratio	
	1990	2003	1990	2003
US	107.14	113.66	112.68	136.48
Germany	94.81	79.71	99.32	73.07
France	118.64	124.56	115.96	129.70
Italy	129.89	130.66	100.00	91.43
Spain	198.92	288.78	207.05	249.92
Netherlands	111.43	243.14	109.94	203.58
Ireland	110.47	200.81	100.79	272.45
UK	137.00	155.83	117.20	194.28

**Ratio of house prices over disposable income per worker, also known as the "crude affordability" ratio.*
Source: IMF World Economic Outlook (September, 2004).

The measures outlined above tend to underpin the notion of overvaluation; however, they do not present the full picture. This is because neither measure takes interest rates into account (McCarthy and Peach (2004)). Interest rates matter in assessing the existence of overvaluation because they influence housing affordability and also represent the yield on competing assets in household's portfolio. The downward trend in nominal mortgage interest rates — a major feature of the housing market over the past decade — thus has significant implications for home ownership affordability and for the equilibrium return on housing.

Over the past ten years, the euro area economy has moved from a higher inflation/ higher interest rate economy to a low inflation/ low interest rate economy. It is argued that as a low interest rate economy, the burden of mortgage repayments has fallen in recent years and housing affordability has increased. This has underpinned the rise in the demand for housing and mortgages. While it is unfortunate that a consistent set of comparable data on affordability is not available which takes account of the extremely low level of interest rates that prevail, the foregoing suggests that over the past five years, interest-adjusted affordability has been broadly unchanged, in contrast to a decline in crude affordability, as reflected in the house-price-to-income ratio.

5.2 Macroeconomic implications of higher debt levels

The higher stock of household debt increases the sensitivity of the household sector to movements in interest rates, changes in income and changes in house prices, while the higher house prices rise, the greater is the potential for some eventual reversal or slowdown in the process of MEW in those countries where it applies.

The decline in inflation has two effects on household borrowing. Firstly, borrowing costs are reduced, allowing a greater number of households to borrow and/or increase the average level of their debt; secondly, as a consequence of lower inflation, the real value of the debt is not eroded as fast as in the past, and hence the proportion of income required to service debt in later years will tend to be higher. A higher debt/income ratio means that households will become more exposed to shocks, and, given low inflation, will remain exposed to them for a longer period of time than in the past. Households will also become more sensitive to a rise in unemployment, and those that have high levels of debt will find it more difficult to finance their mortgages in a period of unemployment. While unemployment may only affect a small section of the population, because households will have higher debt service burdens for longer, they are more likely to experience a spell of unemployment at a time when mortgage repayments are still a significant share of household income.

Even in the absence of an economic downturn, increased indebtedness means that the household sector is now more exposed to declines in house prices, which could lower consumer confidence and household spending. However, a household's ability to service its mortgage may not worsen, since this is determined by the interest rate on the mortgage and the households' income. Finally, where MEW applies, a slowdown or reversal in the process could have adverse macroeconomic effects, as in the Netherlands, where a reversal of the process reduced growth in household consumption by around 0.5 percentage points (Netherlands Bank, 2003).

Section 6: Conclusion

Since the late 1990s, the rising trend in euro area house prices has been remarkable both in its duration and strength, persisting during a phase of economic slowdown. However, on the basis of the evidence examined in this paper, and contrary to the US and UK experience, there is little to suggest that house prices have been a major support to private consumption in the euro area as a whole. The only exception to this finding would appear to be the Netherlands where there is evidence that changes in housing wealth had an impact on consumption.

As regards the determinants of house price developments in the euro area, one of the main findings is that there appear to have been two sets of factors at work — the common demand and supply influences which are regularly cited, and the differing structures of national housing markets. With regard to common influences, the significant fall in interest rates over the past number of years has been an important determinant of the rise in house prices in many countries. However, as we have seen throughout this paper, differences in the structure of housing and

mortgage markets have also played a big role. In particular, key individual characteristics including the type of mortgage interest rate that is predominant (i.e. fixed or variable), the loan-to-value ratio, the existence of mortgage equity withdrawal, the owner occupancy rate, as well as the tax treatment of owner-occupied housing all matter and vary between countries. The scale of the rise in house prices in a number of countries begs the question of whether house prices are overvalued. At present, there is no conclusive evidence on overvaluation.

In conclusion, while there are a number of different country experiences, the evidence suggests that much can be explained by differences in institutional characteristics and demographics across countries. These factors are not likely to change quickly, and housing markets are likely to remain strongly national in character for some time to come.

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